

Appl. No. 09/889,788
Amendment dated November 19, 2003
Reply to Office Action of July 30, 2003

LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended): A liquid crystal display device comprising:
a pair of substrates;
a liquid crystal layer held between the pair of substrates;
at least one of the pair of substrates being provided with a pair of electrodes for applying a lateral electric field to the liquid crystal layer; and
oriented films, free from side chain type structure, formed on both of the pair of substrates;
wherein an AC residual image which occurs even in a case of driving by pure AC is less than 8%.

Claim 2 (Previously Presented): A liquid crystal display device according to claim 1, wherein a specific resistance of the liquid crystal layer is 10^{10} $\Omega \cdot \text{cm}$ or more.

Claim 3 (Previously Presented): A liquid crystal display device according to claim 1, wherein at least one of the oriented films is an organic polymer containing at least one of a polymer and an oligomer in which a weight substance with a long-chain alkyl group applied to an amine component or an acid sentence is at least 5% and at most 30% of the total molar amount.

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Claim 4 (Previously Presented): A liquid crystal display device according to claim 3, wherein a weight average molecular weight of the polymer and the oligomer is at least 2,000 and at most 30,000.

Claim 5 (Previously Presented): A liquid crystal display device according to claim 3, wherein the polymer and the oligomer contain a long-chain alkylene group of at least one of a main chain type and a terminal type.

Claim 6 (Previously Presented): A liquid crystal display device according to claim 1, wherein at least one of the oriented films is an organic polymer of a polymer and/or oligomer amic acid imide type, a polymer and/or oligomer amide-imide type, a polymer and/or oligomer imidosiloxane type, or a polymer and/or oligomer amide-imide type containing a long-chain alkylene group.

Claim 7 (Currently Amended): A liquid crystal display device comprising:
a pair of substrates;
a liquid crystal layer held between the pair of substrates;
at least one of the pair of substrates being provided with at least a pair of electrodes for applying a lateral electric field to the liquid crystal layer; and
at least an oriented film, free from side chain type structure, formed on the electrodes;
wherein an AC residual image which occurs even in a case of driving by pure AC is less than 8%.

Claim 8 (Previously Presented): A liquid crystal display device according to claim 7, wherein a specific resistance of the liquid crystal layer is 10^{10} $\Omega \cdot \text{cm}$ or more.

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Claim 9 (Previously Presented): A liquid crystal display device according to claim 7, further comprising at least a protecting film on the pair of electrodes;

wherein the oriented film is formed on the protecting film.

Claim 10 (Previously Presented): A liquid crystal display device according to claim 7, wherein the oriented film is an organic polymer containing at least one of a polymer and an oligomer in which a weight substance with a long-chain alkyl group applied to an amine component or an acid sentence is at least 5% and at most 30% of the total molar amount.

Claim 11 (Previously Presented): A liquid crystal display device according to claim 10, wherein a weight average molecular weight of the polymer and the oligomer is at least 2,000 and at most 30,000.

Claim 12 (Previously Presented): A liquid crystal display device according to claim 10, wherein the polymer and the oligomer contain a long-chain alkylene group of at least one of a main chain type and a terminal type.

Claim 13 (Previously Presented): A liquid crystal display device according to claim 7, wherein the oriented film is an organic polymer of a polymer and/or oligomer amic acid imide type, a polymer and/or oligomer amide-imide type, a polymer and/or oligomer imidosiloxane type, or a polymer and/or oligomer amide-imide type containing a long-chain alkylene group.

Claim 14 (Currently Amended): A liquid crystal display device comprising:

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a pair of substrates;
a liquid crystal layer held between the pair of substrates;
at least one of the pair of substrates being provided with a pair of electrodes
for applying a lateral electric field to the liquid crystal layer;
at least a protecting film for protecting at least one of the pair of electrodes;
and
oriented films, free from side chain type structure, formed on both of the pair
of substrates, at least one of the oriented films being arranged to cover the
protecting film;
wherein an AC residual image which occurs even in a case of driving by pure
AC is less than 8%.

Claim 15 (Previously Presented): A liquid crystal display device
according to claim 14, wherein a thickness of the protecting film is in a range from
0.1 μm to 0.7 μm .

Claim 16 (Previously Presented): A liquid crystal display device
according to claim 15, wherein a specific resistance of the liquid crystal layer is 10^{10}
 $\Omega\cdot\text{cm}$ or more.

Claim 17 (Previously Presented): A liquid crystal display device
according to claim 15, wherein at least one of the oriented films is an organic
polymer containing at least one of a polymer and an oligomer in which a weight
substance with a long-chain alkyl group applied to an amine component or an acid
substance is at least 5% and at most 30% of the total molar amount.

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Claim 18 (Previously Presented): A liquid crystal display device according to claim 17, wherein a weight average molecular weight of the polymer and the oligomer is at least 2,000 and at most 30,000.

Claim 19 (Previously Presented): A liquid crystal display device according to claim 17, wherein the polymer and the oligomer contain a long-chain alkylene group at least one of a main chain type and a terminal type.

Claim 20 (Previously Presented): A liquid crystal display device according to claim 15, wherein at least one of the oriented films is an organic polymer of a polymer and/or oligomer amic acid imide type, a polymer and/or oligomer amide-imide type, a polymer and/or oligomer imidosiloxane type, or a polymer and/or oligomer amide-imide type containing a long-chain alkylene group.